

**REMARKS**

**Summary of the Final Office Action**

The drawings stand objected to under 37 C.F.R. § 1.83(a).

Claim 4 stands rejected under 35 U.S.C. § 112, first paragraph.

Claims 1, 2, 5 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nagai et al. (U.S. Patent No. 5,434,901) in view of Thieme et al. (U.S. Patent No. 5,222,113) (hereinafter “Thieme”).

Claim 3, while objected to as being dependent upon a rejected base claim, would be allowable if rewritten in independent form.

**Summary of the Response to the Office Action**

Applicants have canceled claim 4 without prejudice or disclaimer. Accordingly, claims 1-3 and 5-6 remain currently pending for consideration.

**Objection to the Drawings and Rejection under 35 U.S.C. § 112, First Paragraph**

The drawings stand objected to under 37 C.F.R. § 1.83(a). Claim 4 stands rejected under 35 U.S.C. § 112, first paragraph. Applicants have canceled claim 4 without prejudice or disclaimer, rendering the objection and rejection moot. Accordingly, Applicants respectfully request that the drawing objection and the rejection under 35 U.S.C. § 112, first paragraph be withdrawn.

**Rejection under 35 U.S.C. § 103(a)**

Claims 1, 2, 5 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nagai in view of Thieme. These rejections are respectfully traversed for at least the following reasons.

As described in the previously-filed response in this application, Applicants respectfully submit that embodiments of the disclosure of the instant application, as described in the claims, utilize a Wolter optical system in a novel way that enables an adjustable magnification. In a Wolter optical system, the distances "a" and "b," as illustrated in Fig. 1 of the instant application, have conventionally been understood being required to remain fixed because of the performance of a grazing incidence mirror, thereby requiring the magnification to remain fixed as well. However, Applicants respectfully submit that the inventor of the instant application's disclosure discovered by ray tracing simulation that the image can still be formed even if these distances "a" and "b" are adjusted at the sacrifice of the associated resolution within an allowable degree as illustrated in Fig. 2 of the instant application.

Applicants respectfully submitted in the previously-filed response that although the applied Nagai reference discloses the use of a Wolter optical system, it does not disclose, or even suggest, magnification adjustment of such a system, to any extent. In addition, the applied Thieme reference concerns a zone plane optical system and it does not suggest the idea of magnification adjustment while employing a Wolter optical system. In fact, Applicants respectfully submit that Thieme instead discourages such an idea of adjusting magnification while employing a Wolter optical system by explicitly teaching that a Wolter optical system is intolerant in imaging error. See col. 1, lines 12-24 of Thieme. Therefore, Applicants

respectfully submitted in the previously-filed response that a skilled person would not be motivated to combine Nagai and Thieme in the manner asserted by the Office Action, at least because Thieme teaches away from such a combination.

The Examiner responded to such arguments in the Final Office Action dated January 19, 2007 by alleging that the imaging error mentioned by Thieme is “directed to the imperfection in a Wolter optic, which is due to the so-called angle-tangent error.” As a result, the Examiner asserts that this teaching “in no way discourages the use of a focusing magnification adjusting means.” Accordingly, the Examiner maintains his previous rejection, asserting that “it would be obvious to provide a focusing magnification adjusting means to adjust a distance between the Wolter optical system and x-ray image detector to bring an image into focus.”

Applicants respectfully traverse such an assertion for at least the following reasons. Applicants respectfully submit that it would not be obvious to introduce a focusing magnification adjusting means into Nagai’s disclosed Wolter mirror system in view of the disclosure of Thieme for at least the following additional reasons.

Applicants respectfully submit that those having ordinary skill in the art understand that moving the positions of the sample and X-ray image detecting means in a Wolter mirror system such as that disclosed in Nagai in order to allow for magnification adjustment, as proposed by the Office Action’s asserted combination, would change the angle of incidence and reflection from the ideal angle. As a result, the reflected light could not converge completely at the focus point. This would result in a blurred image being obtained. More particularly, Applicants respectfully submit that a deteriorated resolution would be obtained by the Office Action’s asserted combination. On the other hand, Applicants respectfully submit that when such a

change is implemented in a zone plate arrangement, as discussed in Thieme, a change in the position of the sample and X-ray image detecting means does not lead to the deterioration of the resolution.

Therefore, Applicants respectfully submit that a person having ordinary skill in the subject art would be taught away from the idea of moving the sample and X-ray image detecting means in a Wolter mirror system such as that disclosed in Nagai by the disclosure of Thieme. Moreover, Applicants respectfully submit that the disclosure of Thieme discourages a skilled person from adopting a Wolter mirror system for a magnification adjustable system because of the angle tangent error in addition to the above mentioned disadvantage of a Wolter mirror system for magnification adjustment. Applicants respectfully submit, in conclusion, that even if Nagai and Thieme were combined, a person skilled in the associated art would still not be motivated to adopt a Wolter mirror system into a magnification adjustable system for at least the foregoing reasons.

As directed by MPEP § 2143.01 V., it is well understood that if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F. 2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Accordingly, Applicants respectfully assert that the rejections under 35 U.S.C. § 103(a) should be withdrawn. Furthermore, Applicants respectfully assert that dependent claims 2 and 5-6 are allowable at least because of their dependence from claim 1 and the reasons set forth above. The Examiner is thanked for the indication that claim 3, while objected to as being dependent on a rejected base claim, would be allowable if rewritten in independent form. Applicants respectfully submit that claim 3 is also allowable at least because

of it's dependence from independent claim 1. Accordingly, withdrawal of the objection to independent claim 3 is respectfully requested.

**CONCLUSION**

In view of the foregoing discussion, Applicants respectfully request the entry of the amendments to place the application in clear condition for allowance or, in the alternative, in better form for appeal. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant's undersigned representative to expedite prosecution. A favorable action is awaited.

**EXCEPT** for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. § 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0573. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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